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# 1997 ANNUAL REPORT



BOSTON WATER AND SEWER COMMISSION



**Boston Water and  
Sewer Commission**

425 Summer Street  
Boston, MA 02210-1700  
617-330-9400  
Fax 617-330-5167



August 1998

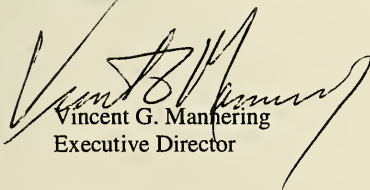
Dear Colleague:

I am pleased to present the Boston Water and Sewer Commission's 1997 Annual Report. This report highlights the achievements of the Commission in 1997 and our ability to insure, for an unprecedented fifth consecutive year, no water and sewer rate increase in 1998.

The Commission maintains a strong record of providing high quality drinking water and wastewater collection services to the City of Boston. Believing that prospective action is the key to success, we will continue to identify and implement measures to improve the quality and efficiency of our services to save the ratepayers money.

If you have any questions regarding the information presented in our 1997 Annual Report please do not hesitate to contact my office at (617) 330-9400.

Sincerely,



Vincent G. Manhering  
Executive Director

enclosure



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## EXECUTIVE DIRECTOR'S MESSAGE

On July 18, 1977, the Boston Water and Sewer Commission (BWSC) was formed by the State Legislature to assume ownership and responsibility for the maintenance and operation of water and sewer services to Boston residents, businesses and institutions. The State Legislature directed the Commission to "avoid the . . . deterioration of the financial . . . and physical condition of Boston's water and sewer system, the need to 'protect natural resources' and insure the availability of . . . services at fair but sufficient rates." Twenty years later (in 1997), I am proud to announce that the Commission has exceeded the directive set by the State Legislature.

When the Commission was formed in 1977, Boston's water and sewer infrastructure was in a state of neglect. Water mains and sewer pipes suffered leaks that were wasting water which in turn wasted money. The Commission acted, creating rehabilitative and preventive maintenance programs, such as a yearly Capital Improvement Program to help bring the system into order. A major result of the extensive repair and maintenance programs initiated through the annual CIP was Boston leading all major cities in the Northeast in the least number of main breaks per mile of pipe in 1997. In addition, during the 1980s and early 1990s water consumption was cut nearly in half. Utilizing the latest technology, the Commission has improved productivity, leading to the receipt of numerous awards for excellence in the environmental, engineering and financial fields.

In the 1980s, the Boston Harbor Project brought an additional challenge of double-digit rate increases. The Commission met this challenge by increasing productivity and lowering costs and has not increased water and sewer rates from 1993 to 1997. In addition to maintaining a flat water and sewer rate for four consecutive years, the Commission received its highest bond rating ever in 1997.

These past achievements serve as the impetus to future goals. The Commission continues its mission of providing the best possible service at the lowest possible cost. Improvements to the infrastructure and technological advancements continue, all to increase the Commission's efficiency and provide better customer service.



Muhammad Ali-Salaam, Commissioner; Cathleen Douglas Stone, Commissioner; Vincent G. Mannering, Executive Director; and Dennis A. DiMarzio, Chairman, Board of Commissioners.

The Commission is proud of what has been accomplished in 20 years. But now is not the time to be complacent. The Commission is in the midst of implementing its strategic technology plan and by January 1, 1999 will be Year 2000 compliant and ready to serve the ratepayer of Boston in the new century.

Sincerely,

A handwritten signature in dark ink, reading "Vincent G. Mannering".

Vincent G. Mannering  
Executive Director



A new Year 2000 compliant PeopleSoft® Human Resource Management System went on line at the Commission in late December. Efficiency improvements include immediate access to all employee and applicant profiles, ad-hoc reporting and electronic data interface for weekly payroll, credit union, savings bonds and deferred compensation deposits.



1977

1978

1979

1980

1981

July 18, 1977

- BWSC is established with a three-member board of commissioners that oversee operation of the newly formed organization to take possession of the City's water and sewer systems.



1978

- BWSC obtains City's water and sewer system.
- Leak Detection and Residential Metering Programs established.



1981

- Plan for the construction of the Boston Main Interceptor and East Side Interceptor initiated with a scheduled completion of 1990.



# TECHNOLOGICAL ADVANCEMENTS AND FINANCIAL INTEGRITY

## Technological Advancements

The Commission is committed to taking advantage of technological advancements that are designed to improve overall efficiency of its operations and better serve its customers. Over the last 20 years, the Commission has progressed from hand-recording employee and customer information to the implementation of state-of-the-art computer networking system implementations launched in preparation for the year 2000 and beyond. These included the Oracle® Relational Database Management System, Microsoft® Windows NT, Geographical Information System (GIS) software, and the PeopleSoft® Human Resource Management System (HRMS).

The Oracle Relational Database Management System provides the Commission with a robust database engine and supports data replication and warehousing. Microsoft Windows NT has become the Commission's standard personal computer operating system and is used to run Microsoft® Exchange for both internal and external electronic mail (e-mail) communications. New Geographical Information System (GIS) software was purchased from ESRI, Inc. to house digitized base maps of the City of Boston and digital "overlays" of water and sewer facilities. The Commission's functionally obsolete Human Resource Management System (HRMS) was replaced with a client/server-based PeopleSoft HRMS. The new HRMS takes full advantage of the Commission's advanced technical infrastructure and provides users with immediate access to all employee and applicant profiles.

## Financial Integrity

In January of 1978, the Boston Water and Sewer Commission obtained the City of Boston's water and sewer systems with minimal income from customers and users. Shortly thereafter, a metering program was initiated. The Commission began collecting revenue to help fund many projects that needed to be undertaken, from the construction of the Boston Main Interceptor to the undertaking of various technological initiatives. The Commission has consistently maintained an operating surplus since its inception, and in 1997 operated with a \$9,622,986.00 surplus. The operating surplus is applied directly to reducing the rate revenue requirement in the following year. In addition to maintaining an outstanding surplus, the Commission did not raise water and sewer rates for the fourth consecutive year (1993–1997). This outstanding money management resulted in the Commission receiving a credit upgrade from A to A+ by Standard and Poor's and from A to A1 by Moody's Investor's Service.

The Commission's Finance Division has been continually awarded for its outstanding money management practices, including receiving the GFOA Certificate of Excellence in Financial Reporting for the fifth consecutive year, and for the sixth consecutive year, the GFOA Distinguished Budget Presentation Award. For the first time ever, the Commission received an "Outstanding" rating in the GFOA Budget Award Program.

### 1982

- Comprehensive study launched of Boston's entire sewer system.
- Construction begins on New East Side and New Boston Main Interceptors four-contract project.



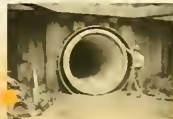
### 1983

- Contract 1 complete on Mt. Vernon Street Sewer.



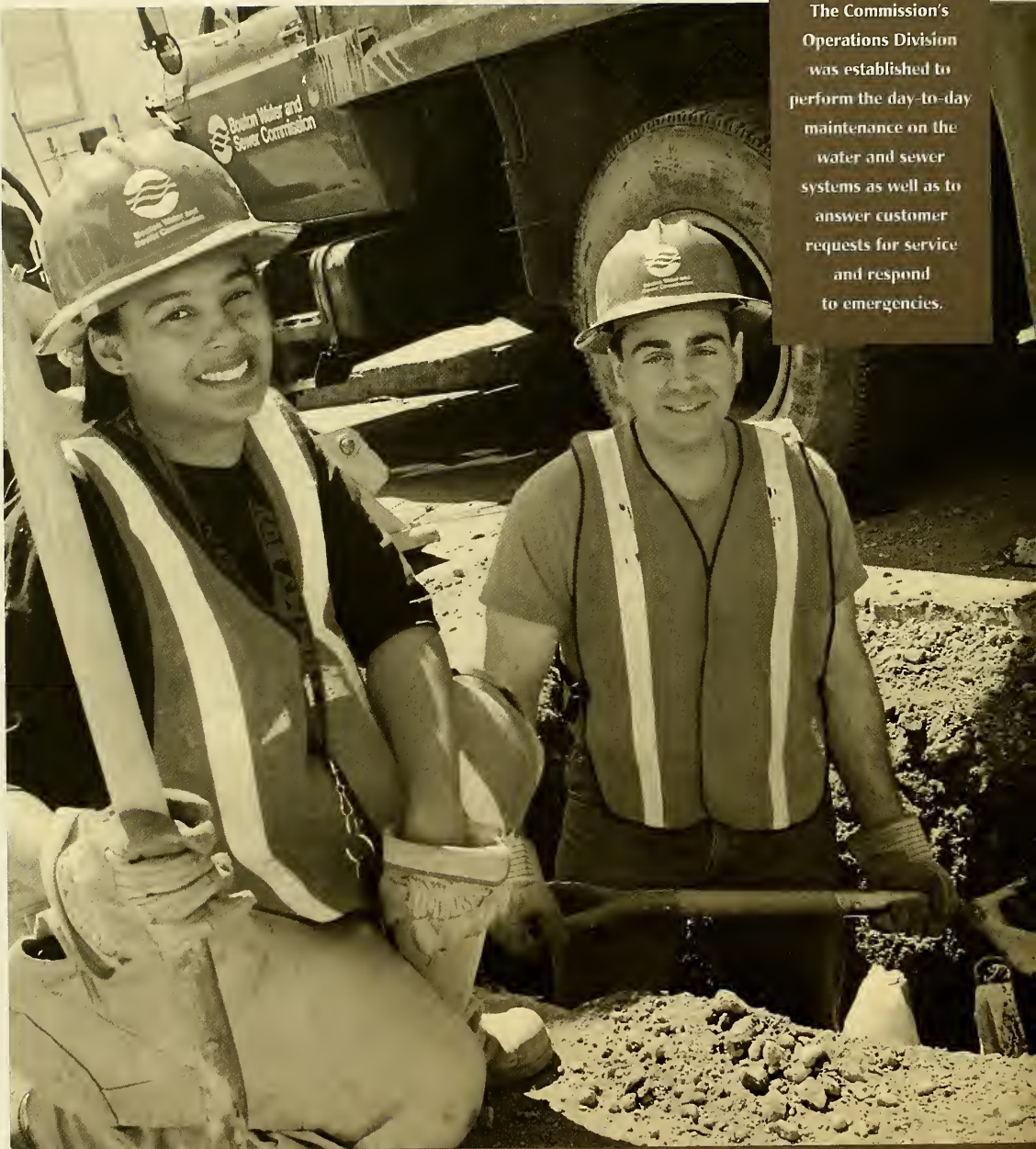
### 1984

- Commission refinances its outstanding debt with the issuance of the \$69.7 million Series A General Revenue Bonds.
- Contract 2 of New Boston Main Interceptor Project complete.





The Commission's Operations Division was established to perform the day-to-day maintenance on the water and sewer systems as well as to answer customer requests for service and respond to emergencies.



1985

1986

- Issuance of \$85,000,000 in general revenue bonds.
- Debt Management Policy established.

1986

1987

- Initiation of Valve Upgrading Program and Hydrant Improvement Program.
- Renewal and Replacement program for water system established to ensure that by the year 2010, all pipes in the system more than 100 years old would be rehabilitated.



1987

1988

- New Meter Reading System introduced.
- Complete restructuring of budgeting, financial planning and rate-setting process.





# OPERATING EFFICIENCY

When the Commission obtained the City of Boston's water and sewer infrastructures, it was faced with a neglected system. Water main breaks were frequent, and leaks plagued the system. In the first few years of the Commission's existence, enormous energy was expended on surveying the water and sewer systems, and creating many preventive maintenance programs that are still utilized to this day.

The Commission's Operations Division was established to perform the day-to-day maintenance on the water and sewer systems as well as to answer customer requests for service and respond to emergencies. The Division was originally structured as two separate areas: water operations and sewer operations. In the mid-nineties the division was reorganized and merged into one area: water and sewer operations. This merger has allowed for more efficient management practices and customer service.

Preventive maintenance is a major component of the Operations Division activities. In 1997, a water main flushing program was implemented to improve the quality of water distributed to customers. In 1997, 254.3 miles were flushed, 3,542 valves surveyed and 2,051 hydrants operated. Due to the professionalism and experience of the Commission's flushing crews, customer inconvenience was negligible.

During 1997, Commission crews began a cross-training program to broaden their working capacity. Thirty-eight employees were trained through the

## 1997 OPERATIONS DIVISION ACHIEVEMENTS:



- Downsized 243 meters, allowing for an additional 15,806.97 cubic feet of consumption to be accounted for (a \$215,890 increase in revenue) and a \$34,405 reduction was realized in capital cost savings
- 4,356 meters were replaced
- Eliminated 180 streamlined pipes
- Removed 437 connecting pipes and relocated 37 meters from outside pits
- Installed 126 new MIUs and repaired 629

Commission's Cross-Training Program, 97 employees were Competent Person Trained and 59 employees were trained on Confined Space Entry.

A Radcom alarm system that monitors the MWRA's master meters was implemented. The system also provides graphics and chart tracking for broken/repared ARBs and AMRs, main break chronologies and meter downsizing.

## 1989



**1989**

- Leak Detection Program saves Commission 10.1 million gallons of water per day.

## 1990



**1990**

- Unaccounted-for Water Task Force developed.
- Unaccounted-for water now at 27%.
- Meter Downsizing Program initiated.

## 1991



**1991**

- Collection rate for accounts receivable increased from 94% to 98%.
- In-house automated financial management system implemented.

The extensive efforts by the men and women working in the Leak Detection Program save the Commission a considerable amount of money annually, a saving that is passed on to ratepayers in the form of flat rates and more efficient water service.



1992



#### 1992

- 1992 Distinguished Budget Presentation Award; 1992 Best Overall Public Water System Award; 1992 New England Environmental Award.

1993

#### 1993

- Installed Automatic Meter Reading devices for over 1,500 of BWSC's largest user accounts.
- Executed a refunding bond issue totaling approx. \$101 million.



1994



#### 1994

- New St. James Avenue Interceptor Project initiated.
- Downspout Disconnection Program launched to reduce infiltration and inflow.

# ENGINEERING MINDS

The Engineering Division has undertaken several dramatic projects through the years, from the New Boston Main Drainage and East Side Interceptor projects in the early and mid-eighties to the New St. James Avenue Interceptor Project in the late nineties. Achievements in 1997 include the completion of the Port Norfolk drainage and water improvements, Allston-Brighton Sewer System Evaluation and the Stony Brook Sewer System Study. AutoCAD 13 was successfully implemented to replace manual drafting and mapping and update the layout of the city's water and sewer infrastructure. In addition, the division's Geographical Information System (GIS) was expanded. A blockage in the Stony Brook Valley Sewer was located and removed, eliminating 500,000 gpd of dry weather overflow into the Charles River. A database for tracking sewer use violations was initiated and developed as well as a computerized system to monitor and track the Commission's excavation permit process. The New St. James Avenue Interceptor Project received the ACEC's Grand Award honor for its state of the art use of new technologies, including microtunneling, cured in-place lining, shotcrete lining and pipe bursting.

Leak detection has proved to be a significant factor in money-saving and system upkeep. When the Commission was formed, leaks proved to be such a problem both financially and structurally that a Leak Detection Program was initiated in 1978. By 1987, 38% of the total system (447 miles) was surveyed for

leaks annually. In 1988, 95% of the system was surveyed and in 1989 the Leak Detection Program saved the Commission 10.1 mgd. In 1997, 319 leaks were located for an additional savings of 3.1 mgd.

## UNACCOUNTED-FOR WATER FROM 1977 TO 1997



The programs developed by the Commission to combat the unaccounted-for water problem have reduced the levels by over 50 mgd since 1977.

The extensive efforts by the men and women working in the Leak Detection Program save the Commission a considerable amount of money annually, a saving that is passed onto ratepayers in the form of flat rates and more efficient water service.

## 1995

- Fifty-one illegal connections corrected, removing 9,100 mgd untreated sewage to receiving waters.
- Second consecutive year with no rate increase.



## 1996

- New St. James Avenue Interceptor Project finished two years ahead of schedule and under budget.
- St. James Avenue Interceptor Project named "Project of the Year" by *Trenchless Technology Magazine*; 1996 Outstanding Achievement Award from Boston Society of Civil Engineers.



## 1997

- 1997
- BWSC celebrates its 20-year anniversary.
- Direct expenses at their lowest level since 1989.
- Fourth consecutive year with no rate increase.
- BWSC receives highest bond rating ever.
- Receives GFOA award for outstanding financial management.





# IN MEMORIAM

**O**n September 1, 1997, the Boston Water and Sewer Commission lost one of its legacies, John P. "Jake" Sullivan, former Director of Operations. Jake worked for the Boston Transit Department before joining the City of Boston Public Works Water Division on April 22, 1948. He was a registered professional engineer and a certified operator of drinking water systems in the Commonwealth. During his years in the Water Division, Jake worked his way up to become the Division Engineer in 1970, responsible for overseeing the entire operation of the Water Division. Jake worked on many major projects during his years at the Water Division, including overseeing the rebuilding of the water systems at Government Center and the redevelopment of the South End and Charlestown. He was also instrumental in introducing cleaning and cement relining of water pipe as a cost-effective rehabilitation in Boston, one that is still used to this day. He implemented the recommendations of the 1986 Water Distribution Study, including the construction of two major 36-inch and 48-inch transmission lines in Charlestown and Roxbury.

When the Commission was formed in 1977, Jake was appointed to the position of Director of Operations for Water and Sewer Services and held the position until his retirement on June 30, 1988.



**John P. "Jake" Sullivan**

In addition to his many accomplishments in Boston, Jake was also an honorary member of the Massachusetts Water Works Association and a life member of the New England Water Works Association, American Public Works Association and the Boston Society of Civil Engineers. He did not stand alone in his tenure at the

Commission and Public Works Department. Jake was the middle generation of Sullivans to work for Boston. His father, Daniel M. Sullivan, began with the Water Division of the City's Public Works Department in August of 1911 and was Division Engineer for many years. Jake's son, John P. Sullivan, Jr., began with the Water Division in 1972 and is currently the Chief Engineer for the Commission and an acclaimed expert on infrastructure rehabilitation. In addition to John Jr., Jake's other sons, Daniel and Richard, also hold management positions at the Commission in the Operations Division.

Jake is fondly remembered and sorely missed.



# INDEPENDENT AUDITORS' REPORT

## THE COMMISSIONERS

### BOSTON WATER AND SEWER COMMISSION:

We have audited the accompanying balance sheets of the Boston Water and Sewer Commission (the "Commission") as of December 31, 1997 and 1996, and the related statements of operations, Commission equity and cash flows for the years then ended. These financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Commission at December 31, 1997 and 1996 and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

Our audits were made for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying Supplemental Schedule of Revenues and Expenses — Rate Basis is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in our audits of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

During 1997 the Commission adopted the provisions of Governmental Accounting Standards Board Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*, and Statement No. 32, *Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*.

**KPMG Peat Marwick LLP**

April 3, 1998

# BALANCE SHEETS

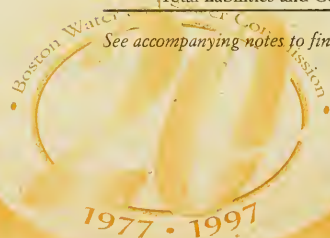
DECEMBER 31, 1997 AND 1996

	1997	1996
<b>ASSETS:</b>		
Current assets:		
Cash and cash equivalents (note 8)	\$ 4,050,618	\$ 4,656,657
Accounts receivable, net:		
Customers, less allowances of \$6,472,190 in 1997 and \$6,401,080 in 1996 (note 1)	20,767,222	23,891,596
Unbilled revenues, less allowances of \$1,702,361 in 1997 and \$1,702,361 in 1996 (note 1)	8,862,033	8,279,709
Construction grants receivable	1,337,856	1,368,958
Prepaid expenses	269,934	273,603
Deferred compensation plan assets (note 13)	—	3,416,353
Total current assets	35,287,663	41,886,876
Restricted investments (notes 4 and 8)	275,956,366	248,610,946
Property, plant and equipment, net (note 3)	433,277,165	421,049,968
Deferred charges (note 2)	31,025,356	33,035,277
Bond issue costs, net	2,672,324	2,966,152
Total assets	\$778,218,874	\$747,549,219

## LIABILITIES AND COMMISSION EQUITY:

Current liabilities:		
Payable from current assets:		
Accounts payable	\$ 5,761,067	\$ 9,764,210
Other accrued liabilities	8,377,396	7,404,911
Current portion of revenue bonds (note 4)	7,115,000	6,750,000
	21,253,463	23,919,121
Payable from trustee assets:		
Current portion of City of Boston bonds (note 4)	50,000	50,000
Total current liabilities	21,303,463	23,969,121
Long-term debt (note 4)	265,080,570	271,778,050
Long-term notes payable (note 4)	34,267,440	20,531,323
Deferred compensation plan liability (note 13)	—	3,416,353
Other long-term liabilities	64,731,187	69,316,779
Deferred credits and reserves (note 2)	266,185,706	236,555,871
Total liabilities	651,568,366	625,567,497
Commission equity:		
Contributed capital	126,650,508	121,981,722
Commitments and contingencies (notes 9, 10, 11 and 12)		
Total liabilities and Commission equity	\$778,218,874	\$747,549,219

See accompanying notes to financial statements.



# STATEMENTS OF OPERATIONS

YEARS ENDED DECEMBER 31, 1997 AND 1996

	1997	1996
<b>OPERATING REVENUES:</b>		
Water and sewer usage	\$183,255,895	\$185,883,893
Fire pipe	2,396,537	2,327,205
Other	6,617,579	3,648,642
Total operating revenues	192,270,011	191,859,740
<b>OPERATING EXPENSES:</b>		
Operations	43,654,591	47,968,088
Maintenance	5,445,498	4,096,378
MWRA assessment (note 5)	103,242,409	101,193,571
Depreciation and amortization	13,904,199	12,951,671
Total operating expenses	166,246,697	166,209,708
Excess operating revenues	26,023,314	25,650,032
<b>NONOPERATING REVENUE (EXPENSE):</b>		
Bond redemption costs (note 4)	—	(2,469,400)
Interest income	18,740,157	20,006,612
Interest expense	(17,323,597)	(20,966,091)
Total nonoperating revenue (expense)	1,416,560	(3,428,879)
Excess revenues before depreciation add-back and transfer requirements	27,439,874	22,221,153
Add: Depreciation on fixed assets acquired by grants	2,189,961	2,091,148
Excess revenue before transfer requirements	29,629,835	24,312,301
Excess revenues used to fund reserves and other deferrals (note 2)	(29,376,952)	(23,700,800)
Accumulated revenues used to offset future rates — beginning of year	9,370,103	8,758,602
Accumulated revenues used to offset future rates — end of year	\$ 9,622,986	\$ 9,370,103

See accompanying notes to financial statements.

# STATEMENTS OF COMMISSION EQUITY

YEARS ENDED DECEMBER 31, 1997 AND 1996

	CONTRIBUTED CAPITAL
Balance, December 31, 1995	\$120,523,303
Contributions in aid of construction	3,549,567
Depreciation of related property	(2,091,148)
Balance, December 31, 1996	121,981,722
Contributions in aid of construction	6,858,747
Depreciation of related property	(2,189,961)
Balance, December 31, 1997	\$126,650,508

*See accompanying notes to financial statements.*





# STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31, 1997 AND 1996

	1997	1996
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Excess operating revenues	\$ 26,023,314	\$ 25,650,032
Adjustments to reconcile operating income to net cash:		
Excess revenues used to fund reserves and other deferrals	(29,629,835)	(24,312,301)
Depreciation and amortization	13,904,199	12,951,671
Change in assets and liabilities:		
Accounts receivable, net	3,124,374	650,274
Unbilled revenues	(582,324)	273,811
Construction grants receivable	31,102	(17,439)
Prepaid expenses	3,669	114,445
Accounts payable	(4,003,143)	(806,746)
Other accrued liabilities	972,485	(551,739)
Deferred credits and reserves	29,629,835	24,312,301
Other long-term liabilities	(4,585,592)	616,403
Net cash provided by operating activities	34,888,084	38,880,712
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Sale (purchase) of investments, net	(27,345,420)	83,349,906
Interest income	18,740,157	20,006,612
Net cash (used) provided by investing activities	(8,605,263)	103,356,518
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:</b>		
Additions to property, plant and equipment	(23,827,647)	(36,726,695)
Proceeds from notes payable	13,736,117	2,428,253
Payment on bonds, including current maturities	(6,332,480)	(90,560,357)
Bond redemption costs	—	(2,469,400)
Bond issue costs	—	1,716,600
Contributions in aid of construction	6,858,747	3,549,567
Payment of bond interest	(17,323,597)	(20,966,091)
Net cash used for capital and related financing activities	(26,888,860)	(143,028,123)
Net decrease in cash and cash equivalents	(606,039)	(790,893)
Cash and cash equivalents at beginning of year	4,656,657	5,447,550
Cash and cash equivalents at end of year	\$ 4,050,618	\$ 4,656,657

See accompanying notes to financial statements.

# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

## 1. ORGANIZATION, BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Boston Water and Sewer Commission (the "Commission") has the responsibility to provide water and wastewater services on a fair and equitable basis in the City of Boston (the "City") as required under the Boston Water and Sewer Reorganization Act of 1977 (the "Enabling Act").

Under the Enabling Act, the Commission is subject to regulation with respect to rates, accounting and other matters, where applicable, by the Board of Commissioners (the "Board"). The Board regulates the rates that the Commission can charge its customers for water and sewer usage. The rates charged to customers are based on the cash required for the Commission's operations, debt service, and reserve contributions. However, there is no legally adopted budget that the Commission must adhere to. To comply with the external financial reporting requirements of the Board, the accompanying financial statements are presented on a basis that is consistent with generally accepted accounting principles ("GAAP") for regulated utilities (i.e., the accrual basis of accounting and the capital maintenance measurement focus).

To accommodate the rate making process, the Commission follows the accounting standards set forth in Financial Accounting Standards Board Statement No. 71 ("FAS-71"), "Accounting for the Effects of Certain Types of Regulation." FAS-71 allows certain (a) revenues provided for future allowable costs to be deferred until the costs are actually incurred (deferred credits) and (b) costs incurred to be capitalized if future recovery is reasonably assured (deferred charges). Revenues and expenses appearing in the Supplemental Schedule of Revenues and Expenses — Rate Basis are presented in the same format as utilized in the Commission's operational budgeting and rate setting process. The revenues and expenses shown on the Statement of Operations are presented on a GAAP basis. A reconciliation between the revenues and expenses of these two operating statements for the year ended December 31, 1997 is provided below:

	REVENUES	EXPENSES
<b>AS PRESENTED IN THE STATEMENTS OF OPERATIONS:</b>		
Operating revenues/expenses	\$192,270,011	\$166,246,697
Other revenues/expenses	18,740,157	17,323,597
Total	211,010,168	183,570,294
<b>RECLASSIFICATIONS AND DEFERRALS:</b>		
Contributions to reserves	—	18,970,811
Provision for working capital	570,428	—
Provision for capitalized interest	154,593	—
Revenue adjustments/bad debt expense	(9,458,991)	(9,458,991)
Excess depreciation and amortization over bond payments	—	(5,061,747)
Interest expense (escrowed funds)	—	(1,149,643)
Interest income (escrowed funds)	(2,759,462)	—
Capital expenditures	—	12,235,587
Excess revenue used to offset current rates	9,370,103	—
Other deferrals	—	157,542
As presented in the Supplemental Schedule	\$208,886,839	\$199,263,853

The Enabling Act requires that any net surplus, as defined by the rate setting process, be either turned over to the City or applied to offset water and sewer rates for the following year. The Commission has applied \$9,622,986 and \$9,370,103 for the years ended December 31, 1997 and 1996, respectively, to offset rates in the respective subsequent years.

### (a) Revenue Billings

Water and sewerage fees are billed to users of the systems on a monthly cycle basis. Revenues are accrued for periods between the termination of billings for the various cycles and the end of the year. Various adjustments are made on a postbilling basis that reduce the amount of total billings. Accordingly, the 1997 and 1996 total customer bills outstanding of \$39,259,192 and \$42,180,396, respectively, have been reduced by provisions for billing adjustments and sewer abatements of \$9,615,824 and \$2,403,956, respectively, in 1997 and \$9,510,176 and \$2,377,544, respectively, in 1996. These net billing amounts are further reduced by an allowance for uncollectible accounts of \$6,472,190 and \$6,401,080 in 1997 and 1996, to arrive at net accounts receivable.

### (b) Investments

Investments, consisting of direct and unconditionally guaranteed short-term obligations of the U.S. Government, repurchase agreements and money market funds secured by government securities, are stated at amortized cost plus accrued interest.

### (c) Property, Plant and Equipment

Property, plant and equipment is stated at historical cost. Depreciation is provided on the straight-line method based upon the estimated useful lives of the various classes of assets. Maintenance and repairs are charged to expense as incurred. Major renewals or betterments are capitalized and depreciated over their estimated useful lives. The Commission does not have any donated fixed assets.

The Commission capitalizes interest costs during construction of assets for its own use. No interest was capitalized in 1997 or 1996 because the difference between interest expense and interest income on unexpended proceeds was not material.

1977 • 1997

# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

## (d) Depreciation

Estimated useful lives used in computing depreciation are as follows:

WATER:	Years	SEWERAGE:	Years
Works	100	Works	75
Meters	10	Pumping station	35
Hydrants	40	OTHER	4 to 14

## (e) Contributed Capital

Contributions received from governmental agencies, individuals and the City in aid of specific construction projects that are not refundable are recorded as contributed capital. Accordingly, depreciation of the related property is charged directly to contributed capital and appears as an addition to excess revenues in the accompanying Statements of Operations.

## (f) Cash Equivalents

The Commission considers all highly liquid, short-term cash investments with original maturities of three months or less to be cash equivalents for purposes of the statements of cash flows.

## (g) Bond Issue Costs

Expenses related to the issuance of bonds are amortized on a weighted-average basis over the life of the bonds, which approximates the effective interest method.

## (h) Proprietary Activity Accounting and Financial Reporting

Under the Governmental Accounting Standards Board (GASB) Statement No. 20, *Accounting and Financial Reporting for Proprietary Activities*, the Commission has elected to apply all Financial Accounting Standards Board (FASB) Statements and Interpretations issued on or before November 30, 1989, except those that conflict with or contradict GASB pronouncements.

## 2. DEFERRED CHARGES AND CREDITS

As discussed in note 1, the application of FAS-71 results in certain revenues and expenses being removed from the Statements of Operations and reflected in the balance sheets as deferred charges or deferred credits. The revenues and expenses that have been removed from the Statements of Operations and added to the balance sheets as deferred credits appear in the line "Excess revenues used to fund reserves and other deferrals" on the Statements of Operations. The components of these amounts are as follows:

	1997	1996
Contributions to reserves	\$18,970,811	\$17,171,033
Provision for working capital	(570,428)	(570,428)
Provision for capitalized interest	(154,593)	—
Principal payments on long-term debt	8,503,196	9,045,230
Interest paid from escrow funds	(1,149,643)	(5,939,537)
Capital expenditures	12,235,587	11,500,320
Depreciation and amortization	(11,714,237)	(10,860,523)
Interest income on project and escrow funds	2,759,462	5,431,559
Other	496,797	(2,076,854)
Total	\$29,376,952	\$23,700,800

The components of deferred charges included in the accompanying balance sheets are as follows:

	1997	1996
Accrued pension expense	\$14,631,411	\$14,970,666
Debt extinguishment expense	16,393,945	18,064,611
Total deferred charges	\$31,025,356	\$33,035,277

The activity in and components of deferred credits and reserves included in the accompanying balance sheets are as follows:

	DECEMBER 31, 1996	INCREASE (DECREASE)	DECEMBER 31, 1997
Debt service	\$ 77,424,009	\$18,970,811	\$ 96,394,820
Capital improvements	119,570,765	10,976,569	130,547,334
Working capital	27,950,994	(570,428)	27,380,566
Self-insurance	2,240,000	—	2,240,000
Subtotal	227,185,768	29,376,952	256,562,720
Reduction of future rates	9,370,103	252,883	9,622,986
Total deferred credits and reserves	\$236,555,871	\$29,629,835	\$266,185,706

# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

## 3. PROPERTY, PLANT AND EQUIPMENT

The cost of water and sewerage property, plant and equipment in service and related accumulated depreciation at December 31, 1997 and 1996 are as follows:

	1997	1996
<b>WATER:</b>		
Works	\$151,503,838	\$145,474,957
Meters and hydrants	19,388,133	18,299,667
Total water	170,891,971	163,774,624
<b>SEWERAGE:</b>		
Works	243,396,937	212,599,900
Pumping station	6,818,570	6,818,570
Total sewerage	250,215,507	219,418,470
<b>OTHER</b>	68,140,883	62,596,938
Total property, plant and equipment	489,248,361	445,790,032
Less accumulated depreciation	95,498,323	83,995,823
Net property, plant and equipment	393,750,038	361,794,209
Construction in progress	39,527,127	59,255,759
Total	\$433,277,165	\$421,049,968

## 4. LONG-TERM DEBT

At the time of its creation, the Commission assumed general obligation certificates of indebtedness of the City (the "City bonds") pertaining to the water and sewer systems. Payments of principal and interest are made directly to the City in accordance with the original maturity and interest schedules. The Commission also issues revenue bonds to support various projects.

A summary of the City bonds and revenue bonds outstanding as of December 31, 1997 and 1996 follows (amounts in thousands):

	1997	1996
City Bonds, bearing interest at a rate of 6.9% with maturity dates through December 1999	\$ 100	\$ 150
Less current installments	50	50
Total City Bonds, net of current installments	\$ 50	\$ 100
<b>SENIOR DEBT:</b>		
1986 Series A, bearing interest at a rate of 6.0%, with a maturity date of November 1, 2015	\$ 13,165	\$ 13,165
1989 Series A, bearing interest at a rate of 6.9% with a maturity date of November 1, 1999	585	585
1991 Series A, bearing interest at rates ranging from 6.0% to 6.5%, with maturity dates ranging from November 1, 1998 to 2021	14,890	15,710
1992 Series A, bearing interest at rates ranging from 5.1% to 6.1%, with maturity dates ranging from November 1, 1998 to 2013	63,755	66,200
1993 Series A, bearing interest at rates ranging from 4.0% to 5.4%, with maturity dates ranging from November 1, 1998 to 2019	97,480	97,545
1994 Series A, bearing a variable interest rate (3.9% and 4.0% at December 31, 1997 and 1996, respectively), with maturity dates ranging from November 1, 1998 to 2024	38,400	39,000
<b>SUBORDINATED DEBT:</b>		
1988 Series A, bearing interest at rates ranging from 6.0% to 7.4%, with maturity dates ranging from November 1, 1998 to 2008	48,075	50,895
Less current installments	276,350	283,100
Total long-term revenue bonds	7,115	6,750
Less unamortized issue discount	269,235	276,350
Net long-term revenue bonds	4,204	4,672
	\$265,031	\$271,678

Boston Water and Sewer Commission

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# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

Annual sinking fund requirements and debt principal and interest maturities for all future years are as follows (amounts in thousands):

	CITY BONDS		REVENUE BONDS		TOTALS	
	PRINCIPAL	INTEREST	PRINCIPAL	INTEREST	PRINCIPAL	INTEREST
1998	\$ 50	\$ 7	\$ 7,115	\$ 16,187	\$ 7,165	\$ 16,194
1999	50	3	8,815	15,737	8,865	15,740
2000	—	—	9,435	15,192	9,435	15,192
2001	—	—	9,955	14,611	9,955	14,611
2002	—	—	10,535	13,993	10,535	13,993
Thereafter	—	—	230,495	125,766	230,495	125,766
Total	\$100	\$10	\$276,350	\$201,486	\$276,450	\$201,496

In August 1986, the Commission issued 1986 Series A Bonds. This issue was structured as a rolling cross-over refunding and new money issue. The 1986 Bonds provided funds for the Commission's ongoing capital improvement program and other capital and operating needs. In addition, a portion of the proceeds on the 1986 Bonds were deposited into the 1986 Series A Escrow Account to provide for the principal payments on the 1985 Series A Bonds and the interest payments on the 1986 Bonds as they come due. The outstanding portion of this issue, except for the 2015 Term Bonds, was extinguished through early redemption on November 1, 1996 at no gain or loss. A call premium of \$752,800 was paid and a charge of \$1,154,545 was recognized in the Statement of Operations for unamortized bond issue costs.

In December 1988, the Commission issued 1988 Series A Bonds to provide for the defeasance of a portion of the 1984 Series A Bonds (subsequently paid January 1, 1995), to provide supplemental funding for the Operating Reserve Fund and to pay costs of issuance.

In December 1989, the Commission issued 1989 Series A Bonds to provide funds for projects undertaken as part of the Commission's ongoing capital improvement program.

In June 1991, the Commission issued 1991 Series A Bonds to provide funds for projects, to provide funds for the Senior Debt Reserve Fund and to pay the cost of issuance of the 1991 Series A Bonds. The Commission maintains an insurance policy with Financial Guaranty Insurance Company to guarantee payment of principal and interest on the 1991 Series A Bonds maturing November 1, 1998 through November 1, 2021.

In September 1992, the Commission issued 1992 Series A Bonds to provide funds for the advanced refunding of \$23,930,000 of the Commission's 1986 Series A Bonds and the establishment of an escrow account to provide for future principal and interest payments on \$37,640,000 of the same 1986 Series A bonds as part of a cross-over refunding transaction. Under the 1992 Refunding Trust Agreement, the Commission deposited sufficient funds with the Bond Trustee to pay when due the principal and interest on the advanced refunded bonds until the first call date, November 1, 1996. As a result, this transaction qualifies as an in-substance defeasance and the advanced refunded bonds of \$23,930,000 are no longer considered outstanding under the Commission's Resolution. The bonds refunded through the cross-over transaction were not considered defeased. The outstanding debt of \$37,640,000 was paid from the 1992 cross-over funds on November 1, 1996.

In March 1993, the Commission issued \$100,505,000 of General Revenue Bonds, 1993 Series A to advance refund a portion of the 1984 Series A (Subordinated Series), a portion of the 1989 Series A (Senior Series), and a portion of the 1991 Series A (Senior Series) Bonds. Under the 1993 Refunding Trust Agreement, the Commission deposited sufficient funds with the Bond Trustee to pay the principal and interest on the advanced refunded bonds when due. As a result, this transaction qualifies as an in-substance defeasance and the advanced refunded bonds of \$88,040,000 are no longer considered outstanding under the Commission's Resolution. The Commission advance refunded the bonds to reduce its total debt service payments over 26 years by almost \$7,426,000 and to obtain an economic gain of \$6,256,720.

In October 1994, the Commission issued \$40,000,000 of General Revenue Bonds, 1994 Series A to provide funds for projects undertaken as part of the Commission's ongoing capital improvement program. The Commission maintains a letter of credit to guarantee the principal and interest payments on these bonds maturing November 1, 1998 through 2024, in the event that the Commission is unable to make such payments.

In the aggregate \$157,655,000 remains outstanding at December 31, 1997 on the bond issues that were defeased "in-substance."

# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

The "Resolution Establishing Issue of Revenue Bonds" adopted by the Commission on December 6, 1984 places certain restrictions on the Commission's operations. It requires that rates, charges and fees be set at a level sufficient to meet a net revenue test on an annual basis and requires that all revenues, as defined, be deposited in a Revenue Fund maintained by a fiscal agent. Amounts held in the Revenue Fund are to be disbursed into and withdrawn from other funds provided for in the Resolution. The Resolution provides that all excess cash be held in the Revenue Fund until the last business day of the fiscal year. At that time, if certain covenants are met, the Commission has the option to remove any excess cash from the Revenue Fund and place such cash in a fund not restricted by the Resolution.

The Commission has options for early redemption of revenue bonds starting in 1998 at a price of 102% of face value. In addition, in compliance with the Resolution, the Commission has established both trustee and nontrustee funds with investments, principally short-term securities, which are restricted for payment of specified liabilities, capital projects or other costs of operations. The components of the trustee and nontrustee investments at December 31, 1997 and 1996 are as follows:

	1997	1996
<b>TRUSTEED:</b>		
U.S. Treasury notes	\$ 82,475,563	\$ 84,618,681
Other government obligations	38,724,170	24,164,639
Money market and cash investments	9,445,701	36,658,744
Open-ended mutual funds	8,642,010	40,102,840
Commercial paper	74,160,038	9,545,073
	213,447,482	195,089,977
<b>NONTRUSTEED:</b>		
U.S. Treasury notes	8,224,593	9,074,296
Other government obligations	2,434,866	2,773,736
Money market and cash investments	16,469,137	4,691,726
Open-ended mutual funds	13,676,278	8,479,095
Commercial paper	3,093,300	6,958,882
Repurchase agreements	18,610,710	21,543,234
	62,508,884	53,520,969
	\$275,956,366	\$248,610,946

## Long-term Notes Payable:

During 1997 and 1996, the Commission executed loan agreements with the Massachusetts Water Pollution Abatement Trust ("MWPAT") to finance and refinance a portion of the Commission's water pollution abatement projects. As of December 31, 1997, an aggregate amount of \$31,545,790 was received by the Commission. The Commission is eligible to receive the remaining \$788,910 once the projects are completed. For purposes of offsetting principal and interest payments, an amount aggregating approximately \$23,689,000 consisting of contract assistance payments from the Commonwealth of Massachusetts and other interest subsidies from MWPAT will be recognized as capital grants in aid of construction over the term of the loan. The long-term portion of the loan agreements with MWPAT is \$28,580,626 at December 31, 1997. The scheduled loan payments for all MWPAT obligations and related subsidies are shown below (amounts in thousands):

	SCHEDULED LOAN REPAYMENTS			LOAN SUBSIDY AMOUNTS			NET LOAN REPAYMENTS		
	PRINCIPAL	INTEREST	TOTAL	EQUITY EARNINGS	CONTRACT ASSISTANCE PAYMENTS	TOTAL	PRINCIPAL	INTEREST	TOTAL
1998	\$ 1,197	\$ 1,607	\$ 2,804	\$ 809	\$ 867	\$ 1,676	\$ 796	\$ 332	\$ 1,128
1999	1,232	1,553	2,785	777	867	1,644	819	322	1,141
2000	1,277	1,497	2,774	743	867	1,610	852	312	1,164
2001	1,319	1,436	2,755	708	867	1,575	879	301	1,180
2002	1,375	1,371	2,746	672	867	1,539	920	287	1,207
Thereafter	24,167	9,843	34,010	4,751	10,894	15,645	16,366	1,999	18,365
Total	\$30,567	\$17,307	\$47,874	\$8,460	\$15,229	\$23,689	\$20,632	\$3,553	\$24,185

The Commission entered into various interest-free loan agreements with the Massachusetts Water Resources Authority (the "Authority") during 1997 and 1996. Under these agreements, the Commission received \$528,000 and \$1,122,425 in 1997 and 1996, respectively, to be repaid in five equal annual installments as part of the Authority's Infiltration/Inflow Local Financial Assistance program. The long-term portion of these loans at December 31, 1997 is \$2,237,703. In addition, the Commission received \$4,311,377 in interest-free loans from the Authority as part of the Authority's Local Water Infrastructure Rehabilitation Program. The long-term portion of these loans at December 31, 1997 is \$3,449,111. These programs are designed to assist service area communities with sewer system rehabilitation.

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# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

## 5. MASSACHUSETTS WATER RESOURCES AUTHORITY

The Massachusetts Water Resources Authority provides all the Commission's water supply and sewer treatment requirements and assesses the Commission for a portion of its actual operating and capital expenses. The assessment is based on the Authority's fiscal year (July 1 to June 30) and payments are due to the Authority in four equal installments in September, November, March and May. Amounts included in the Statements of Operation for assessments by the Authority for 1997 and 1996 are as follows:

	1997	1996
Assessments allocated on:		
Water usage	\$ 29,523,486	\$ 28,182,821
Wastewater usage	73,718,923	73,010,750
Total	\$103,242,409	\$101,193,571

In 1997 and 1996, over 77% and 78%, respectively, of water provided from the Authority was billable to customers. Since its inception, the Commission has increased the percentage of billable water from 52% in 1977 to over 77% in 1997 and is continuing to take steps to improve the amount of billable water, including replacement of old and defective meters and implementation of a comprehensive leak detection and repair program.

## 6. TRANSACTIONS WITH THE CITY OF BOSTON

The Commission's ongoing program to meter City facilities has resulted in billings to nine City departments based on actual consumption of approximately \$3,364,000 and \$3,738,000 in 1997 and 1996, respectively.

The City provides services to the Commission, including paving and facilities rental. Operating costs billed to the Commission by the City were approximately \$1,275,200 and \$1,020,600 during 1997 and 1996, respectively. Capital costs billed by the City were approximately \$2,627,300 and \$3,663,900 during 1997 and 1996, respectively.

The Commission has an agreement with the City that allows the Commission's water and sewer bills that have remained unpaid for more than two years to be added as liens on the City's property tax bills. Under this agreement, the City provides collection services on these bills for an administrative fee. As of December 31, 1997, receivables totaling approximately \$3.5 million of billings had been included on property tax bills. During 1997, the city collected and remitted to the Commission \$960,000.

At the end of 1995, the Commission implemented its own tax lien program. Under this program, accounts which have unpaid balances over two years old are transferred into the tax lien program for collection. As of December 31, 1997, approximately \$3 million of this amount remains outstanding.

## 7. RETIREMENT BENEFITS

During 1997, the Commission adopted GASB Statement No. 27, *Accounting for Pensions by State and Local Governmental Employees*, which modified the disclosures required for the retirement plan.

The Commission provides retirement benefits to substantially all of its employees which are funded by a pension trust fund (the "Trust Fund"), and the State-Boston Retirement System (the "SBRS" or "System"), a cost-sharing retirement plan. The Commission does not provide any other significant postemployment benefits.

A dispute concerning the Commission's past and future obligations to all Commission employees covered by the SBRS was settled in 1986, resulting in a payment of \$19,100,000 to the SBRS. This payment was funded primarily through 1983 and 1986 bond proceeds and is recorded as a deferred charge that will be recovered through future rates. As part of the settlement with the SBRS, the Commission annually reimburses the City for the Commission's share of pension benefits paid to Commission employees. The Commission's share is based upon the proportion of each employee's total years of creditable service, level of compensation and group classification. Employees become 100% vested after 10 years of creditable service as defined by Chapter 32 of the Massachusetts General Laws ("MGL").

### *Description of the SBRS Plan and the Trust Fund*

The SBRS is a cost-sharing multiemployer public employee retirement system established under Chapter 32 of the MGL and is a member of the Massachusetts Contributory Retirement System. The System provides retirement, disability and death benefits to plan members and beneficiaries. Chapter 32 of the MGL assigns authority to establish and amend benefit provisions of the plan, and grant cost-of-living increases to the State legislature. The System issues a publicly available financial report which can be obtained through the Commonwealth of Massachusetts, Public Employee Retirement Administration ("PERA"), One Ashburton Place, Boston, Massachusetts 02108.

# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

## **Funding Policy**

Plan members are required to contribute to the SBRS at rates ranging from 5% to 11% of annual covered compensation. The Commission is required to pay into the SBRS its share of the remaining systemwide actuarially determined contribution plus administration costs which are apportioned among the employers based on active covered payroll. The Commonwealth of Massachusetts reimburses the SBRS for a portion of benefit payments for cost-of-living increases. The contributions of plan members and the Commission are governed by Chapter 32 of the MGL. The Commission's contributions to the System for the years ending December 31, 1997, 1996 and 1995 were approximately \$1,033,000, \$787,000 and \$780,000, respectively, which equaled its required contribution each year. Total employee contributions, based on actuarially determined amounts were approximately \$1,578,000, \$1,473,000 and \$1,449,000 or 7.7%, 7.5% and 7.4% of covered payroll in 1997, 1996 and 1995, respectively.

## **Valuation of Investments**

The investment portfolio is regulated by the MGL, Chapter 32, Section 23. The investments are presented in the financial statements at fair market value. State Street Bank and Trust Company is the custodian of the portfolio, which is managed by independent investment advisors.

## **THE COMMISSION'S TRUST FUND**

The Trust Fund pays the SBRS plan annually an amount equal to the amount SBRS paid on behalf of the Commission's employees. As required by the Commission's Enabling Act, *employee* pension contributions are transferred to the SBRS and are either returned to employees upon termination or, for vested employees, are used to defray a portion of the total retirement benefit. The Commission's policy is to make additional *employer* contributions to the Trust Fund based upon the actuarially determined cost of future benefits, net of employee contributions.

### **(a) Valuation of Investments**

Trust Fund assets at December 31, 1997 and 1996 are as follows:

	1997	1996
Assets (at fair market value):		
Common stock	\$28,341,071	\$22,761,060
International stock	2,610,975	2,271,713
Mutual funds	191,419	201,700
Fixed income	17,190,657	15,068,892
Total	\$48,334,122	\$40,303,365

The investment portfolio is regulated by the MGL, Chapter 32, Section 23. The investments are managed by independent investment advisors. Fleet Bank of MA, N.A., is the custodian of the portfolio.

The most recent actuarial valuation of the Commission was prepared by the Segal Company as of January 1, 1997. As of that date, the total covered employee payroll was approximately \$22,111,072.

The unfunded actuarial liability ("UAL") as of January 1, 1997 is as follows:

	1997
Active participants	\$ 25,809,167
Retired members and beneficiaries	7,841,245
Total actuarial liability	33,650,412
Less actuarially determined net assets	(34,333,364)
Overfunded actuarial liability	\$ (682,952)

The significant assumptions used in the calculation of the UAL as of January 1, 1997 include annually compounded rates of return of 7.5% on present and future assets and projected salary increases (due to inflation) of 5% per year, compounded annually. The January 1, 1997 actuarial valuation was based on 151 retired and inactive employees and 530 active employees. These assumptions are the same as those used to determine actuarial contribution requirements.





# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

## 8. DEPOSITS AND INVESTMENTS

The Commission's General Revenue Bond Resolution, adopted December 6, 1984, as amended, places certain limitations on the nature of deposits and investments available to the Commission. Demand deposits and term deposits without collateralization can only be made with financial institutions meeting certain criteria. Certificates of deposit must be fully collateralized and issued by FDIC insured banks. Investments can also be made in securities issued by or unconditionally guaranteed by the U.S. Government or its Agencies; public agencies, municipalities or state obligations carrying the highest bond rating; commercial paper rated A-1, P-1; A-Rated money market funds; fully collateralized investment contracts and certain futures contracts. In addition, the Commission's Trust Fund has additional investment powers, most notably the ability to invest in stocks, corporate bonds and other instruments.

### (a) Deposits

A summary of the Commission's deposits that are (Category 1) fully insured or collateralized with securities held by the Commission or its agent in the Commission's name (Category 2) those deposits that are collateralized with securities held by the pledging financial institution's trust department or agent in the Commission's name and (Category 3) those deposits that are not collateralized as of December 31, 1997 follows:

	1	CATEGORY 2	3	TOTAL BANK BALANCE	CARRYING AMOUNT
Cash	\$364,781	—	\$ 4,841,688	\$ 5,206,469	\$ 4,050,618
Bank money market deposits	—	—	26,705,272	26,705,272	25,914,838
Total	\$364,781	—	\$31,546,960	\$31,911,741	\$29,965,456

Deposits in transit and outstanding checks account for the majority of the difference between the bank balance and the carrying amount.

### (b) Investments

The Commission's investments are categorized according to the level of risk assumed by the Commission. Category 1 includes investments that are insured, registered or held by the Commission's trustee in the Commission's name. Category 2 includes uninsured and unregistered investments held by the counterparty's trust department or agent in the Commission's name. Category 3 includes uninsured or unregistered investments held by the counterparty, its trust department or agent but not in the Commission's name:

	1	CATEGORY 2	3	CARRYING AMOUNT	MARKET VALUE
<b>CATEGORIZED:</b>					
U.S. Government obligations	\$108,201,840	\$ —	—	\$108,201,840	\$108,099,796
U.S. Government Agency obligations	23,657,352	—	—	23,657,352	23,522,598
Repurchase agreements	—	18,610,710	—	18,610,710	18,610,710
Commercial paper	—	77,253,338	—	77,253,338	77,096,916
	131,859,192	95,864,048	—	227,723,240	227,330,020
<b>NOT CATEGORIZED:</b>					
Open-end mutual funds	—	—	—	22,318,288	22,318,288
Total	\$131,859,192	\$95,864,048	—	\$250,041,528	\$249,648,308

## 9. LEASE COMMITMENTS

On July 2, 1993, the Commission entered into a 30-year operating lease for office space in the same building the Commission had previously occupied. This lease accounts for over 95% of the Commission's future minimum lease commitments. In addition to the minimum base rent under this lease, the Commission must pay as additional rent, a percentage of operating costs of the leased building.

The Commission also leases other office space and equipment under various leases that have also been accounted for as operating leases. Leases associated with other office space are expected to be renewed as they expire in the normal course of business.

# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

Minimum lease commitments under all operating leases with terms in excess of one year at December 31, 1997 are as follows:

	OFFICE	OTHER
1998	\$ 1,325,717	\$ 764,252
1999	1,325,717	38,074
2000	1,325,717	23,908
2001	1,325,717	23,908
2002	1,325,717	23,908
Thereafter	20,764,517	406,445
Total	\$27,393,102	\$1,280,495

Rent expense under operating leases amounted to \$1,828,796 and \$1,848,243 in 1997 and 1996, respectively.

## 10. COMMITMENTS

A major capital improvement program is currently in progress. As part of this program, the Commission has entered into a number of contracts for the design and construction of its facilities. Commitments under these contracts aggregate approximately \$38 million as of December 31, 1997. Capital improvements, primarily related to water and wastewater system projects with an emphasis on the clean-up of the Boston harbor area, are expected to aggregate approximately \$107.3 million for 1998 and 1999. Of this amount, approximately \$85.9 million represents extension and improvement projects and \$21.4 million represents renewal and replacement projects. The extension and improvement projects are expected to be 26% funded by federal and state grants and Authority grants and loans. The remaining amounts will be funded from the Commission's bond proceeds, the sale of surplus property and operating revenues.

Included in the above commitments is funding for the design and construction of a facility to consolidate Commission operations at one location. A purchase and sales agreement was executed on January 22, 1998. The date of closing was April 2, 1998 at a total purchase price of \$11 million. The total three-year spending, for the new facility, including the cost of purchase is \$47.1 million, of which \$25.1 million is anticipated to be spent in 1998 with \$20 million and \$2 million in years 1999 and 2000, respectively.

Pursuant to Chapter 152 of the Acts of 1997, the Massachusetts General Court authorized the taking of real property within certain boundaries in South Boston for the purpose of constructing a new convention center in the City of Boston. A four-acre parcel purchased by the Commission in 1993 lies within those boundaries. Chapter 152 provides that land held by public agencies, including the Commission, is deemed to be held for governmental purposes and therefore will be taken without consideration to the applicable agency. The Commission purchased the parcel for \$6,000,000, and made improvements therein, costing approximately \$2,000,000. As part of legislative negotiations, the taking agency represented that the Commission will receive compensation in some form over time from the end user for the acquisition and use of the parcel. In addition, the Commission will not have to make sewer and drainage improvements that had been planned for the convention center area because these will be made by the developer as part of the development of the site.

## 11. RISK MANAGEMENT AND OTHER INSURANCE

The Commission carries self-insured retention limits for claims filed under workers' compensation and general liability and completely self-insures for all unemployment benefits. The workers' compensation self-insured retention limits are \$300,000 per claim, \$1,868,000 aggregate and is supplemented with \$5 million in excess coverage purchased through an outside carrier. For general liability, the Commission's self-insured limits are \$1 million per occurrence, \$2.5 million aggregate and is subordinate to \$5 million of excess coverage purchased through an outside carrier. Under the sections of the Model Water and Sewer Act, the Commission's tort liability is capped at \$100,000 per claimant.

The Commission maintains other insurance coverage as follows:

POLICY TYPE	COVERAGE
Health	Premium Based
Vehicles	Combined single limit of \$1 million
Property	Aggregate limit of \$20,227,000
Public Officials	Coverage of \$3 million; \$100,000 self-insurance retention
Fiduciary	\$2 million coverage
Crime	Employee dishonesty coverage of \$5 million



# NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1997 AND 1996

The Commission participates in the City's health benefits plans for which the City assesses monthly premiums to the Commission based on current enrollments. Insurance claims for all policies have not exceeded coverage by a material amount in the past three years.

Liabilities for self-insured claims are reported if it is probable that a loss has been incurred and the amount can be reasonably estimated. The Commission has established a liability based on historical trends of previous years and attorney's and independent insurance reserve appraiser's estimates of pending matters and lawsuits in which the Commission is involved. Unemployment claims paid during 1997 were immaterial.

Changes for the years ended December 31, 1997 and 1996 are as follows:

	1997	1996
Beginning balance of reserves	\$4,165,390	\$4,508,332
Payment of claims attributable to events of both current and prior years:		
Workers' compensation	(631,508)	(497,064)
General liability	(396,487)	(534,474)
Incurred claims	1,159,412	688,596
Ending balance of reserves	\$4,296,807	\$4,165,390

Incurred claims represent the total of a provision for events of the current fiscal year and any change in the provision for events of the prior fiscal years.

## 12. CONTINGENCIES

The Commission is involved in ordinary and routine litigation and other matters related to its operations and the establishment of rates. Management believes that the resolution of these matters will not materially affect the financial position of the Commission.

The Commission has received federal and state grants for specific purposes that are subject to review and audit by the grantor agencies. Such audits could lead to requests for reimbursement to the grantor agency for expenditures disallowed under terms of the grant. The Commission believes such disallowances, if any, will not be significant.

The Commission is involved as a defendant in litigation regarding the pollution of Boston Harbor. Management believes that the Commission's extensive capital improvement program (see note 10) addresses probable actions that the Commission may be required to undertake in connection with this litigation. Additionally, the Commission is likely to bear either directly or through future assessments of the Authority a substantial portion of the financial costs involved. As of December 31, 1997, the overall clean-up costs are estimated to be approximately \$450 million. However, the extent of the Commission's liability for these costs cannot be determined.

## 13. DEFERRED COMPENSATION

The Commission offers its employees a deferred compensation plan created in accordance with Section 457 of the U.S. Internal Revenue Code. The plan is administered by Prudential Trust Company. The plan, available to all employees, permits them to defer a portion of their current salary to future years. The deferred compensation is not available to the participants until termination, retirement, death or unforeseeable emergency.

In accordance with Section 457 of the Internal Revenue Code, all amounts of compensation deferred under the plan, all property and rights purchased with such amounts and all income attributable to such amounts, property or rights are held in trust for the exclusive benefit of participants and their beneficiaries. The assets and liabilities of the plan have, therefore, been removed from the balance sheet as of December 31, 1997.

## 14. SUBSEQUENT EVENT

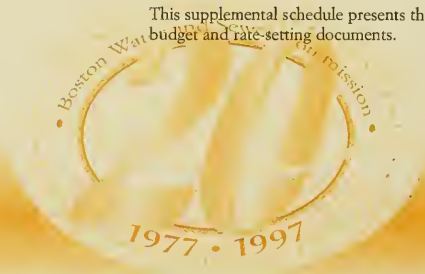
In April 1998, the Commission expects to issue bonds. The proceeds are expected to be used to refund outstanding principal amounts.

# SUPPLEMENTAL SCHEDULE OF REVENUES AND EXPENSES — RATE BASIS

YEARS ENDED DECEMBER 31, 1997 AND 1996

	1997	1996
<b>REVENUES:</b>		
Water revenue	\$ 66,673,734	\$ 67,703,536
Sewer revenue	116,582,161	118,180,357
	183,255,895	185,883,893
Less:		
Adjustments	7,279,381	11,605,519
Discounts	741,903	764,433
Bad debt	1,437,706	3,221,666
Total	9,458,990	15,591,618
Net billed charges	173,796,905	170,292,275
Prior year surplus	9,370,103	8,758,602
Miscellaneous revenues:		
Late charge revenue	2,939,296	2,923,808
Investment income	13,041,399	11,651,244
Fire pipe revenue	2,396,537	2,327,205
Other income	7,342,599	4,219,071
Total revenues	208,886,839	200,172,205
<b>DIRECT OPERATING EXPENSES:</b>		
Salaries and wages	22,230,570	21,532,653
Overtime wages	799,512	882,356
Fringe benefits	3,482,062	3,079,655
Supplies and materials	1,904,423	1,633,555
Repairs and maintenance	5,445,498	4,096,378
Utilities	519,179	452,513
Professional services	1,579,685	1,210,055
Space and equipment rentals	1,828,796	1,848,243
Other services	861,431	704,378
Insurance	358,501	374,750
Damage claims	480,560	469,474
Inventory	383,524	307,547
Capital outlay	662,161	519,103
Total direct operating expenses	40,535,902	37,110,660
<b>NONOPERATING EXPENSES:</b>		
MWRA assessment	103,242,409	101,193,571
Capital improvements	11,573,426	10,981,216
Principal payments	8,503,196	9,045,230
Interest expense	16,173,954	15,026,552
Deposits to reserve funds	18,970,811	17,171,033
SDWA assessment	264,155	273,144
Miscellaneous	—	696
Total nonoperating expenses	158,727,951	153,691,442
Total current expenses	199,263,853	190,802,102
Current year rate surplus	\$ 9,622,986	\$ 9,370,103

This supplemental schedule presents the Commission's revenues and expenses on the basis that is presented in the Commission's budget and rate-setting documents.








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BOSTON WATER AND SEWER COMMISSION

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